

*reprint - 013*

Date: Monday, 05/11/2007 2:29:58 PM  
User: Linda Lacelle

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	MID TUBE ASSEMBLY
<b>Job Number</b> :	33636		
<b>Estimate Number</b> :	10469		
<b>P.O. Number</b> :	<i>N/A</i>	<b>Part Number</b> :	D3391013
<b>This Issue</b> :	05/11/2007	<b>S.O. No.</b> :	<i>N/A</i>
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D3391 REV F
<b>First Issue</b> :	19/07/2007	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	32239	<b>Drawing Revision</b> :	F
	<b>Type</b> :	<b>Material</b> :	<i>N/A</i>
	LANDING GEAR	<b>Due Date</b> :	30/07/2007
<b>Written By</b> :	<i>[Signature]</i>	<b>Qty:</b>	1
<b>Checked &amp; Approved By</b> :	<i>[Signature]</i>	<b>Um:</b>	Each
<b>Comment</b> :	Est. A 05.10.20 New Issue KJ/EC Est. B 06.02.10 ECN773 dwg rev.D EC Est. C 07.03.20 rev F dwg EC Est. D 07.03.28 re-format EC		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D25001100	Skidtube Extrusion
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-100	Extrusion	

*See attached pg 1*

2.0	D3391011	Fwd Tube Assembly
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Fwd Tube Assembly

Batch:

3.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1
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**Comment:** LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391 ✓

2-Identify as D3391-023 ✓

3-Drill pilot holes using DT8796 (Do not drill "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391 ✓

4-Open float bag holes 0.257" as per Dwg D3391 ✓

5-C'sink float bag holes as per Dwg D3391 ✓

6-Open remaining holes to Ø0.375" except for fwd saddle hole of detail "J" ✓

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 05/11/2007 2:29:58 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

7-Remove .030" from Fwd indexing Ridge as per Dwg D3391 ✓

8-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391 ✓

9-Deburr ✓

10-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker, ✓

11-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J" ✓

12-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.257" and c'sink (20 holes) as per Dwg D3391 ✓

13-Open .375" holes to .438" \*\*\*do not open fwd saddle holes\*\*\* ✓

14-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)

15- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-023/-021 to 0.438" dia. in D3391-021

16- Transfer drill 2 wearplate holes into D3391-021 using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-021.

17- Locating from two fwd wearplate holes drilol remaining 6 wearplte holes in D3391-021 using DT8937

18- Open 2 fwd wearplate holes in D3391-023 to .250" dia.

19- Open 12 wearplate holes in D3391-021 to 0.257" dia. & c'sink per dwg.

20-Deburr and blow out all chips from inside tube

4.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

2-Drill pilot holes including "B" holes using DT8796 as per Dwg D3391

3-Open float bag holes as per Dwg D3391

4-C'sink float bag holes as per Dwg D3391

7-11-5

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 05/11/2007 2:29:58 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

- 5-Open remaining holes as per dwg D3391
- 6- Locate electric step holes 41.0000" from fwd end and drill using DT 8393  
\*\*\*\*\* ensure step holes are on top of tube not bottom Pat\*\*\*\*\*
- 7- Open electric step holes 0.332" per dwg D3391 (section L-L)
- 8- Open electric step holes 0.250" per dwg D3391 (section M-M)
- 9- Open electric step holes 0.250" per dwg D3391 (section LL-LL)
- 10-Remove .030" from Fwd indexing Ridge as per Dwg D3391
- 11-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391
- 12-Deburr
- 13-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.208" holes with paint marker
- 14-Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391
- 15-Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.257" and c'sink (20 holes) as per Dwg D3391
- 16-Open .375" holes to .438"
- 17- insert D3391-011 and clico in place with wearplate holes, transfer drill saddle holes as per dwg D3391.
- 19-Deburr and blow out all chips from inside tube

5.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5-07-10-06

6.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

11

7-11-6

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 05/11/2007 2:29:58 PM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

7.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BE 07/11/06

8.0

D33891

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEB

Pick:

Qty

Part Number

Description

Batch

1

D3389-1

Web

1621827 B33657

A/R

Sikaflex-241/-291

M105488

Sikaflex expire date:

7-7-1

Start: 7-11-6 Time: 10:50

Finish: 07/11/07 Time: 6:00 AM

u 7-11-6

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

2-Bond web in place as per Dwg D3391 & QSI 015.

Adhere for 12 hours)

u 7-11-6

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

G: 07/11/07

11.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

PRESSURE WASH  
M105914

07/11/07  
BR 07-11-07

BR 07/11-07

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 07/11/07

13.0

NAS1330C3KB116

Insert



Comment: Qty.: 24.0000 Each(s)/Unit Total: 24.0000 Each(s)

Insert

Pick:

Qty

Part Number

Description

Batch

20

NAS1330C3KB116

Insert

M104575

FL 07/11/07

P

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



Date: Monday, 05/11/2007 2:29:58 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

14.0

NAS1330C3KB166

INSERT



NAS1330C3KB166



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

RivnuT

Pick:

Qty Part Number

Description

Batch

10

NAS1330C3KB166

Insert

m103954

FL

15.0

NAS1329C4KB140

INSERT



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

PHENOLIC WASHER

batch: m104652.

FL

16.0

NAS1515H3L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

PHENOLIC WASHER

batch: m105116.

FL

17.0

AN960C10L

washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

WASHER

batch: m105143.

FL

18.0

NAS1515H4L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

WASHER

batch: m105408

FL

19.0

AN960C416L

WASHER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

WASHER

batch: m100651

FL

20.0

MS27039C109

SCREW



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SCREW

batch: m17831

FL 07/11/07

①

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: ☒ Date: 21/10/07

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 05/11/2007 2:29:58 PM  
User: Linda Lacelle

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391013

Job Number:



Seq. #:

Machine Or Operation:

Description :

21.0

MS27039C408

SCREW



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SCREW

batch: m/7831

FL

22.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Assemble as per dwg D3391

FL 07/11/07 ①

23.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect each insert using DT8821

Stubs

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

W/O 32523A

25.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

①  
H 07/11/07

Job Completion



H 07.11.07

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 7/19/2007 2:21:36 PM  
User: Kim Johnston

**Process Sheet**

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: MID TUBE ASSEMBLY
Job Number	: 33636		
Estimate Number	: 10469		
P.O. Number	:	Part Number	: D3391023 <b>-013</b>
This Issue	: 7/19/2007 S.O. No. :	Drawing Number	: D3391 REV F
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 1 / Type : LANDING GEAR	Drawing Revision	: F
Previous Run	: 32239	Material	:
Written By	:	Due Date	: 7/30/2007 Qty: 1 Um: Each
Checked & Approved By	: <u><i>[Signature]</i></u>		
Comment	: Est. A 06.10.20 New Issue KJ/EC Est. B 06.02.10 ECN773 dwg rev.D EC est C 07.03.20 rev F dwg EC est D 07.03.28 re-format EC		

**Additional Product**

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 D25001100 Skidtube Extrusion



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE EXTRUSION

Pick:

Qty	Part Number	Description	Batch
1	D2500-1-100	Extrusion	<b>B24593</b>

**DP 7-7-25**

2.0 D3391021 Fwd Tube Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Fwd Tube Assembly

Batch: **33635**

**DP 7-11-6**

3.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-023

3-Drill pilot holes using DT8796 (Do not drill "B" holes) and drill only 1 fwd saddle hole on one side only as per Dwg D3391

4-Open float bag holes 0.257" as per Dwg D3391

5-C'sink float bag holes as per Dwg D3391

6-Open remaining holes to Ø0.375" except for fwd saddle hole of detail "J"

**DP 7-7-25**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 7/19/2007 2:21:36 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

- 7-Remove .030" from Fwd indexing Ridge as per Dwg D3391
- 8-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391
- 9-Deburr
- 10-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker,
- 11-Open wearplate holes of D3391-023 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J"
- 12-Open wearplate holes of D3391-023 assembly detail section H-H to Ø0.257" and c'sink (20 holes) as per Dwg D3391
- 13-Open .375" holes to .438" \*\*\*do not open fwd saddle holes\*\*\*
- 14-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)
- 15- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-023/-021 to 0.438" dia. in D3391-021
- 16- Transfer drill 2 wearplate holes into D3391-021 using DT8217, locating from two previously drilled holes, drill remaining wearplate holes into D3391-021.
- 17- Locating from two fwd wearplate holes drill remaining 6 wearplate holes in D3391-021 using DT8937
- 18- Open 2 fwd wearplate holes in D3391-023 to .250" dia.
- 19- Open 12 wearplate holes in D3391-021 to 0.257" dia. & c'sink per dwg.
- 20-Deburr and blow out all chips from inside tube

4.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



Date: Thursday, 7/19/2007 2:21:36 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

7.0

D33891

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEB

Pick:

Qty	Part Number	Description	Batch
1	D3389-1	Web	
A/R		Sikaflex-241/-291	
		Sikaflex expire date:	

1

D3389-1

Web

A/R

Sikaflex-241/-291

Sikaflex expire date:

Start: Time:

Finish: Time:

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

2-Bond web in place as per Dwg D3391 & QSI 015.

Adhere for 12 hours)

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

12.0

NAS1330C3KB116

Insert



Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)

Insert

Pick:

Qty	Part Number	Description	Batch
20	NAS1330C3KB116	Insert	

20

NAS1330C3KB116

Insert

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Thursday, 7/19/2007 2:21:36 PM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: MID TUBE ASSEMBLY

Job Number: 33636

Part Number: D3391023

Job Number:



Seq. #:

Machine Or Operation:

Description :

13.0

NAS1330C3KB166

INSERT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

RivnuT

Pick:

Qty Part Number

Description

Batch

10

NAS1330C3KB166

Insert

14.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install inserts as per dwg D3391

touch-up holes in D3391-021 with alodine

15.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect each insert using DT8821

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

17.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



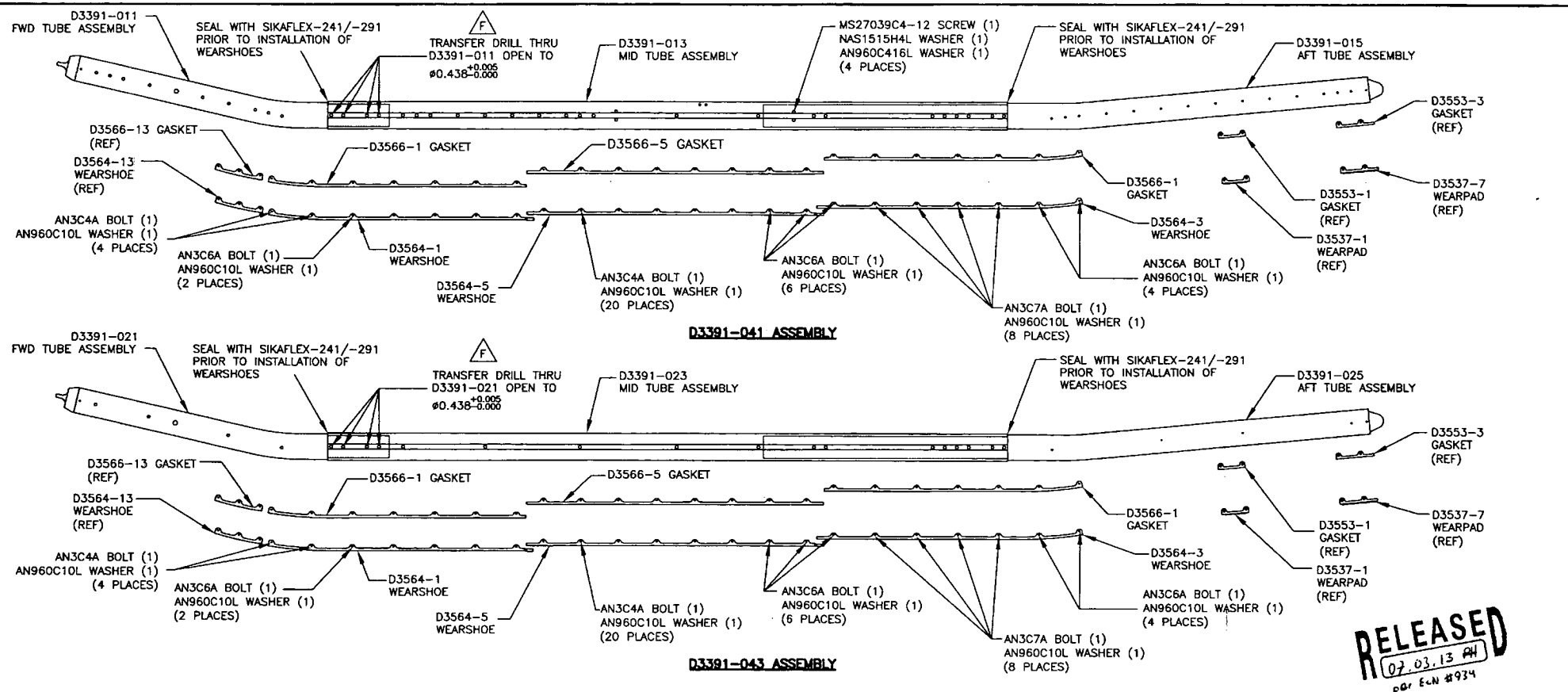
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



#### D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
1	1	D3391-021	FWD TUBE ASSEMBLY
1	1	D3391-023	MID TUBE ASSEMBLY
1	1	D3391-025	AFT TUBE ASSEMBLY
1	1	D3564-1	WEARSHOE
1	1	D3564-3	WEARSHOE
1	1	D3564-5	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	AN960C10L	WASHER
4	4	MS27039C4-12	SCREW
4	4	NAS1515H4L	WASHER
4	4	AN960C416L	WASHER

#### GENERAL NOTES

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DTB217 TO LOCATE AND DRILL 'E' SIZE HOLES (Ø0.250-Ø0.257) FOR WEARSHOE INSERTS. C/SINK Ø0.391/Ø0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.

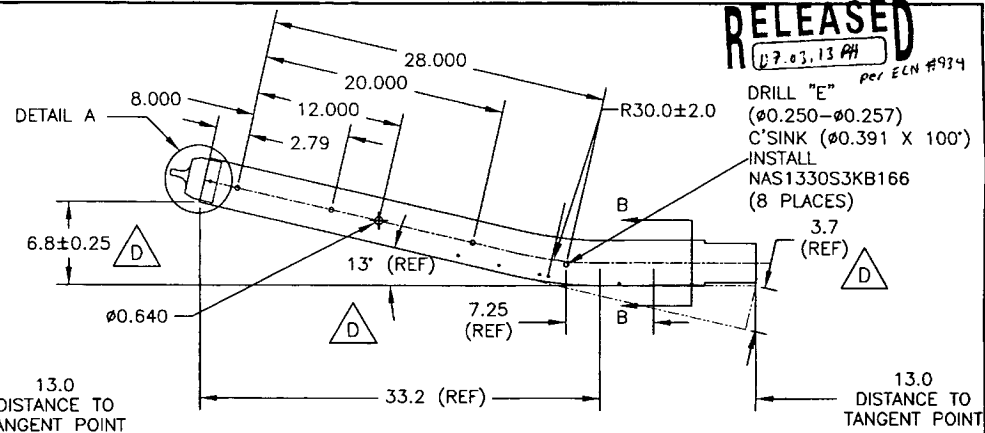
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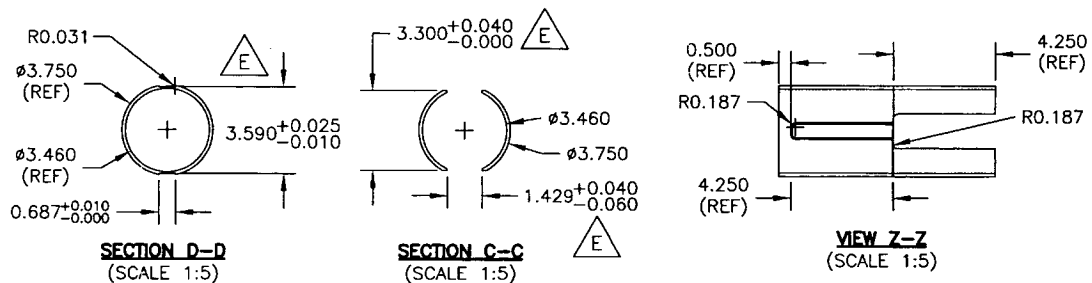
F	07.01.18	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021
E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	07.01.18	TITLE
		412 FLOAT SKIDTUBE
		REV. F
		SHEET 1 OF 5
		SCALE
		NTS

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**D3391-021 ASSEMBLY AND BENDING DETAIL**



QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
10	10	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
10	10	AN980C10L	WASHER
30	20	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)

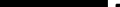
DRILL "E"  
(Ø0.250-Ø0.257)  
(Ø0.391 X 100°)  
INSTALL  
NAS1330S3KB166  
(12 PLACES)

Technical drawing of a mechanical part showing dimensions and features. The drawing includes a side view and a cross-sectional view. Key dimensions and features are labeled:

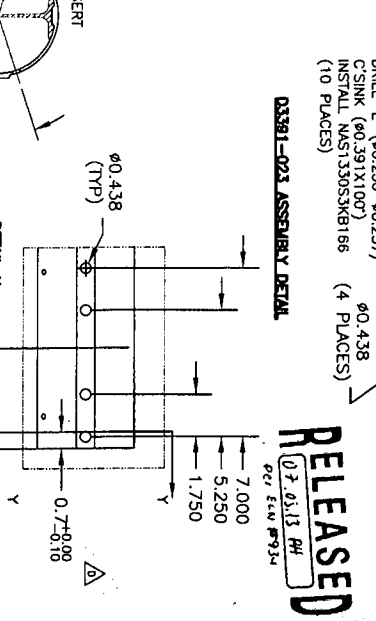
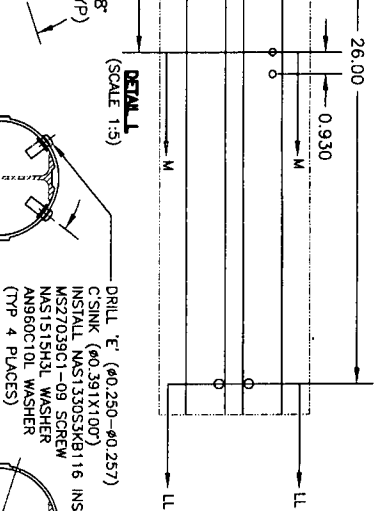
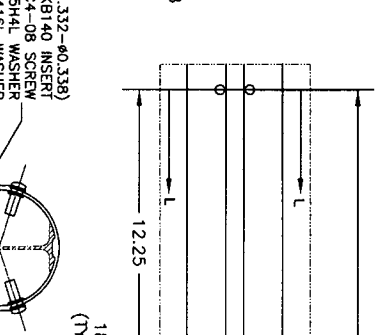
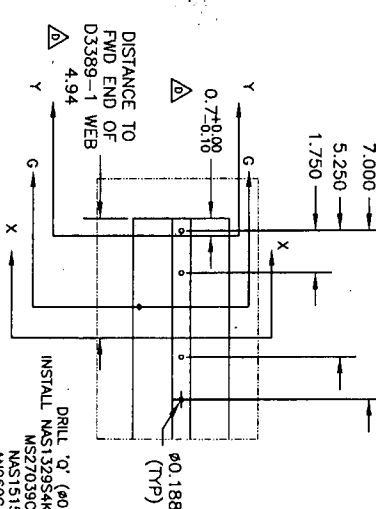
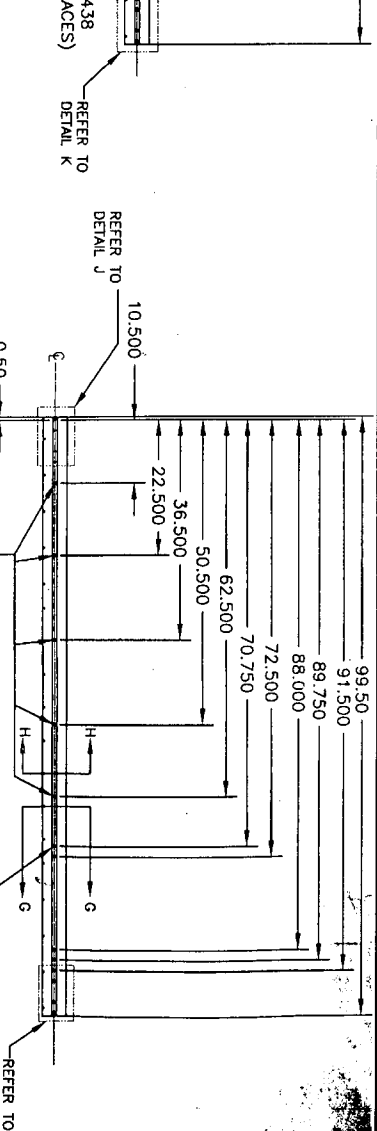
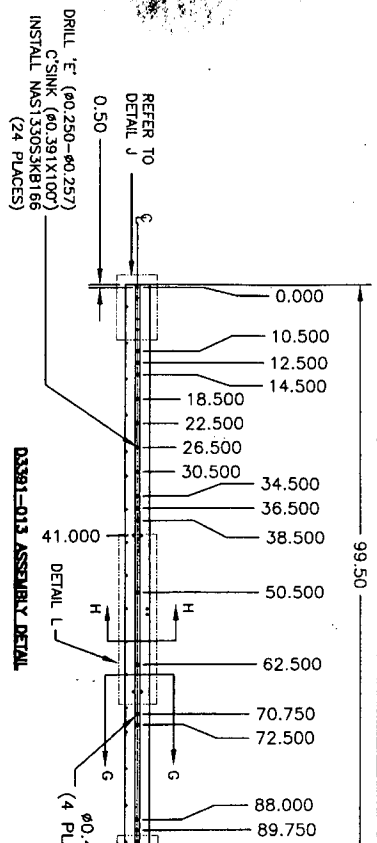
- 30.1**: DIST TO CENTER OF BEND (REF)
- 4.250**: Dimension across the top of the cross-section.
- 4.250**: Dimension across the bottom of the cross-section.
- R0.063**: Radius dimension for the bottom fillet.
- 46.49**: Total length dimension.
- Z**: Feature callout for the top and bottom surfaces.
- D**: Feature callout for the top and bottom surfaces.
- C**: Feature callout for the top and bottom surfaces.
- E**: Feature callout for the top and bottom surfaces.

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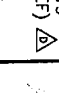
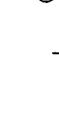
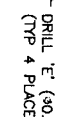
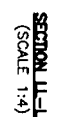
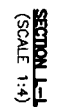
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		D3391	SHEET 2 OF 5
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07.01.18	412 FLOAT SKIDTUBE		1:10





QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
-----------	-----------	-------------	-------------

X	X	D3391-013	MID TUBE ASSEMBLY
X	X	D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330S3KB116	INSERT (OR NAS1330C3KB176)
24	10	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4	4	NAS1329S4KB140	INSERT (OR NAS1329C3KB140)
4	4	NAS1515H4L	WASHER
4	4	AN960C10L	WASHER
4	4	NAS1515H4L	WASHER
4	4	AN960C416L	WASHER
4	4	MS27039C1-09	SCREW
4	4	MS27039C4-08	SCREW



D3391-013/-023 MID TUBE ASSEMBLY  
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION  
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SHAFLEX-241/-291 PER OSI 015

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REMOVE 0.030  
FROM TOP AND BOTTOM  
TO 3.610

SECTION X-X  
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REMOVE 0.225  
FROM TOP AND BOTTOM  
TO 3.800  
(0.7 FROM BOTH ENDS)

SECTION Y-Y  
(SCALE 1:4)

SECTION G-G  
(SCALE 1:4)

SECTION H-H  
(SCALE 1:4)

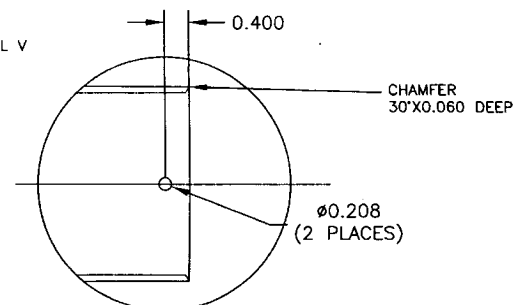
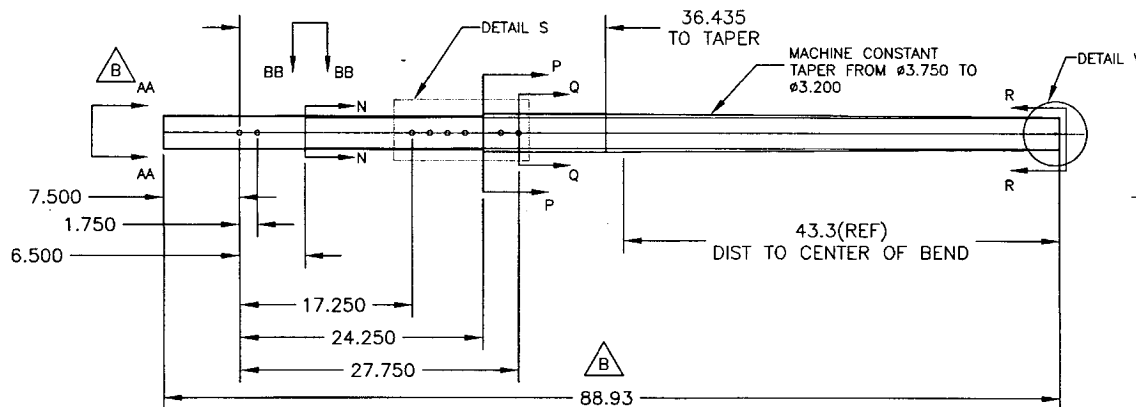
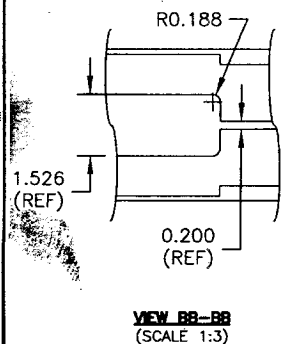
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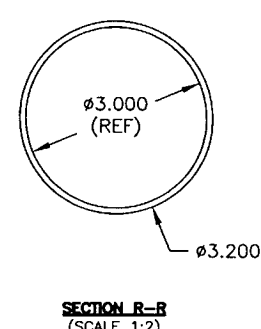
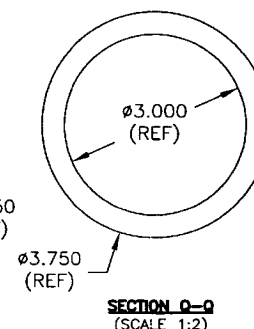
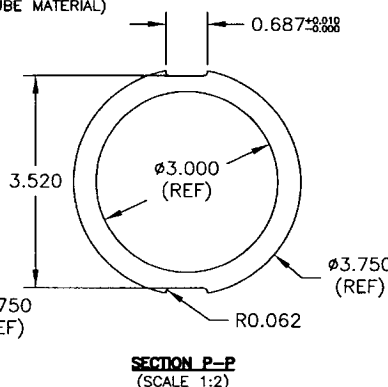
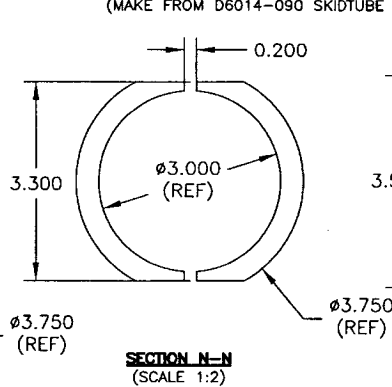
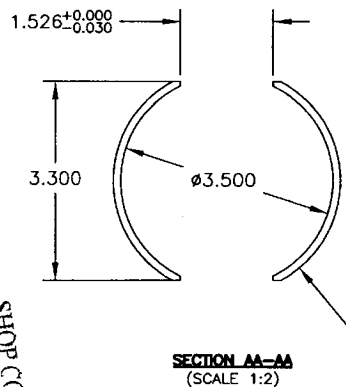
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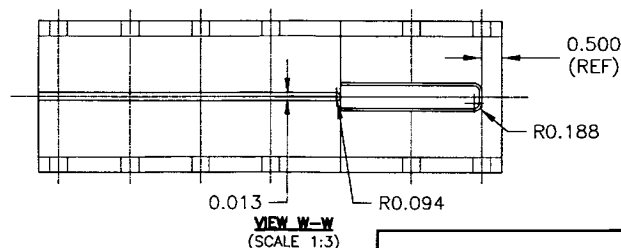
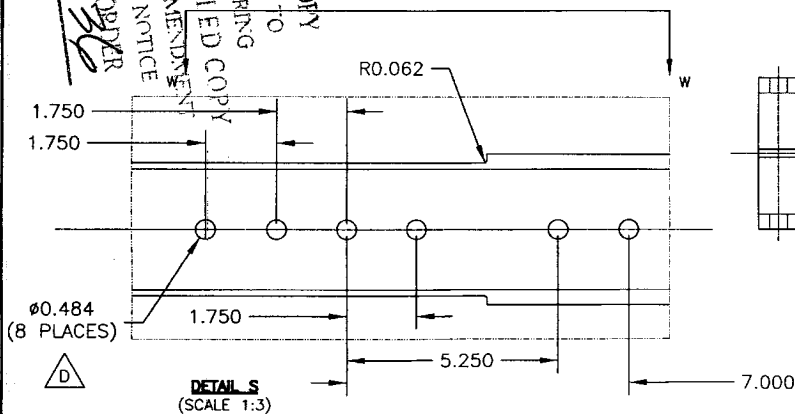




**D3391-3 AFT DRILLING AND CUTTING DETAIL**  
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



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QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
18	14	NAS1330S3KB366	INSERT (OR AES10KB366)
4	2	NAS1330S3KB316	INSERT (OR NAS1330C3KB316)
8	6	NAS1330S3KB266	INSERT (OR NAS1330C3KB266)
4		NAS1330S3KB216	INSERT (OR NAS1330C3KB216)
16	12	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4		NAS1330S4KB151	INSERT (OR NAS1330C4KB151)
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
2	2	NAS1515H3L	WASHER
10	10	AN960C1DL	WASHER



C'SINK AND INSTALL NAS1330S3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	NAS1330S3KB366
CS2	4		Ø0.391	NAS1330S3KB366
CS3	4	2	Ø0.391	NAS1330S3KB316
CS4	8	6	Ø0.391	NAS1330S3KB266
CS5	4		Ø0.391	NAS1330S3KB216
CS6	16	12	Ø0.391	NAS1330S3KB166



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SHEET 5 OF 5

SCALE

